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EXAMINER	
KITOV, ZEEV V	
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2836	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/692,298	MECHANIC ET AL.	
	Examiner	Art Unit	
	ZEEV KITOV	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 May 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1, 4, 5, 9 - 14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 4, 5, 9 - 14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Examiner acknowledges a submission of the Affidavit and Arguments filed on May 28, 2008. No Claims are amended. A new Office Action follows.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In *re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.
Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 1 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over:

- Claim 1 & 2 of Mechanic (1) (US 6229682) in view of Okochi et al. (US 5179362) or Pagenkopf (US 6218913).
- Claim 1 & 2 of Mechanic (2) (US 6560086) in view of Okochi et al. (US 5179362) or Pagenkopf (US 6218913).

Mechanic (1) & (2) disclose in claim 1**:** a protective circuit placed between hot, neutral and ground leads of an apparatus and first and second voltage surge protectors in series between hot and neutral, a relay between hot and neutral with a switch that connects (opens) first and second surge protectors to ground when relay is receiving (not receiving) current when the ground lead is connected (not connected) to an electrical ground and in claim 2**:** a capacitor for filtering noise between neutral and ground leads.

The claims 1 and 2 above do not disclose an LC filter/protection having an inductor in series with the ground lead and a capacitor between the neutral and ground leads to eliminate ground noise.

Okochi et al. (US 5179362) discloses a power line filter, which uses an LC filter between neutral and ground, wherein the inductance is disposed in series in the circuit ground lead (Abstract & Fig. 1 elements La, Lb and Cy2).

Pagenkopf (US 6218913) discloses an electromagnetic interference (EMI) filter for use in power lines, which uses an LC filter between neutral and ground, wherein the inductance is disposed in series in the circuit ground lead (Abstract and Fig. 1 inductor and capacitor in L-shaped configuration between neutral and ground).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Mechanic (1) or (2) circuit protections with the inductive-capacitive elements (LC filter) of Okochi et al. or Pagenkopf because it filters electromagnetic interference (EMI) and/or noise.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 4 and 13-14 are rejected under 35 U.S.C. §103(a) as being unpatentable over Lawrence (US 5179490) in view of Winch et al. (US 6040969). Regarding claim 1 Lawrence discloses a protective circuit (Fig. 2) having hot (34), neutral (36), and ground (38) leads arranged to be placed between corresponding utility hot, neutral, and ground leads of a power utility outlet of a multi-phase power distribution network and corresponding device hot, neutral, and ground leads of a device (40), the protective circuit responding to abnormal power conditions incoming from the power utility outlet and reducing or eliminating ground noise or noise between the ground and neutral leads transmitted to the devices (Col. 2 lines 59-65 <the examiner notes that both EMI and RFI are unwanted noise which are filtered out with passive or active filters. They are both related, the higher the frequency of RFI the higher the EMI would be because it depends on the frequency>), the protective circuit comprising: a neutral-ground voltage surge protection/filtration circuit including at least one LC filter circuit (88, 98, 96 <the examiner notes that in any electrical circuit where and inductive element [choke 88, which is basically an inductive element] and a capacitor [98, 96] are connected is obvious that the configuration determines an LC filter>) the LC filter circuit comprising: an inductive component (88) disposed in series in the circuit ground lead (38) between the utility network (34, 36, 38) and the device (40); a capacitor (96, 98) connected between the circuit neutral (36) and circuit ground (38) leads after the inductor (88) towards the device (40), the LC filter circuit component is being adapted to reduce or eliminate ground noise or noise between ground and neutral leads transmitted to the devices (the examiner notes that both EMI and RFI are

unwanted noise which are filtered out with passive or active filters. They are both related, the higher the frequency of RFI the higher the EMI would be because it depends on the frequency). Note that the load is a generic term used for electrical/electronic apparatuses, which include computers with microprocessors, and that any feature applied to a monophase power distribution network may easily be duplicated for multiphase power distribution network.

Lawrence does not specifically disclose a first relay connected between the utility network and the device; a first switch controlled by the first relay, the first relay being in an opened position when no current is flowing through the first relay, the absence of current flow in the first relay corresponding to an abnormal state of the protective circuit; the first switch in the opened position disconnecting components of the neutral-ground voltage surge circuit; the first switch being in a closed position when current is flowing through the first relay, the presence of current flow in the first relay corresponding to a normal state of the protective circuit; the first switch in the closed position connecting the components of the neutral-ground voltage surge protection filtration circuit.

Winch et al. teaches a circuit to protect electronic equipment from EMI (Fig. 6) with a relay (34) connected between the utility network (18, 20, 22) and the device (24, 26, 28 <output where the devices are connected>); a switch (A) controlled by the relay (34), the switch being in a closed position when current is flowing through the relay, the presence of current flow in the relay corresponding to a normal state of the protective circuit; the switch in the closed position connecting the components of the neutral-ground voltage surge protection filtration circuit (Col. 15 lines 36-46), the relay being in an opened position when no current is flowing through the relay, the absence of current flow in the relay corresponding to an abnormal state of the protective circuit; the switch in the opened position disconnecting components of the neutral-ground voltage surge circuit (the switch has two states open-close, on-off).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Lawrence with the relay of Winch et al. because it protects connected equipment by preventing supply system overvoltages from reaching the connected equipment (Winch et al. <Col. 24 lines 28-30).

The examiner notes that Winch et al. teaches about the EMI and RFI noises also (Col. 1 lines 16-34).

Regarding claim 4 Lawrence further discloses a circuit (Fig. 2) comprising: a hot-neutral voltage surge protection/filtration circuit component adapted to substantially reduce noise between the hot (34) and neutral (36) ends and to clamp a voltage between the leads (78), the hot-neutral voltage surge protection/filtration circuit including an LC filter circuit (84, 94, 96 <the examiner notes that in any electrical circuit where and inductive element [choke 84; which is basically an inductive element] and a capacitor [94, 96] are connected is obvious that the configuration determines an LC filter>), comprising: an inductive component (84) disposed in series in the circuit hot lead (34) between the utility network (34, 36, 38) and the device (40); a capacitor (94, 96) connected between the hot (34) and neutral (36) leads after the inductor (84) towards the device (40), the LC filter circuit component is being adapted to reduce or eliminate ground noise or noise between hot and neutral leads transmitted to the devices (the examiner notes that both EMI and RFI are unwanted noise which are filtered out with passive or active filters. They are both related, the higher the frequency of RFI the higher the EMI would be because it depends on the frequency).

Regarding claim 13 Lawrence in view of Winch et al. discloses the protective circuit of claim 1. Lawrence further discloses a first indicator circuit for indicating a normal state (Fig. 2 element 54), and a second indicator circuit for indicating an abnormal state (Fig. 2 element 52).

Regarding claim 14 Lawrence in view of Winch et al. discloses the protective circuit of claim 1. Lawrence further discloses wherein the neutral-ground voltage surge protection/filtration circuit component includes a resistor (Fig. 2 elements 106, 108), an inductive element in series in the circuit ground lead (Fig. 2 element 88) and capacitors (Fig. 2 elements 96, 98) the LC filter (the examiner notes that in any electrical circuit

where and inductive element <choke 88; which is basically an inductive element> and a capacitor <96, 98> are connected is obvious that the configuration determines an LC filter) being adapted to reduce or eliminate ground noise or noise between ground and neutral leads transmitted to the devices (Col. 2 lines 3-7).

Lawrence in view of Winch et al. discloses the claimed invention except for multiple LC filters. It would have been obvious to one having ordinary skills in the art at the time the invention was made to have multiple LC filters, since it has been held that mere duplication of the essential working parts of a device involves only routine skills in the art. St. Regis Paper Co. v. Bemis Co., 193 USPQ 8.

Claims 5 and 9-12 is rejected under 35 U.S.C. §103(a) as being unpatentable over Lawrence (US 5179490) in view of Winch et al. (US 6040969) and Mechanic (US 6229682). Regarding claim 5 Lawrence in view of Winch et al. discloses the circuit of claim 4 but does not disclose a second relay connected between the utility network and the device; a second switch controlled by the second relay; the second relay being in an opened position when no current is flowing through the relay, the absence of current flow in the second relay corresponding to an abnormal state of the protective circuit (no power to the load); the switch in the opened position disconnecting components of the hot-neutral voltage surge protection/filtration circuit; the second switch being in a closed position when current ifs flowing through the second relay, the presence of current flow in the second relay corresponding to a normal state of the protective circuit; the second switch in the closed position connecting the components of the hot-neutral voltage surge protection/filtration circuit.

Mechanic teaches a transient voltage surge suppressor (TVSS)(Fig. 1) with a relay (42r) connected between the utility network (10, 12, 14) and the device (10a, 12a, 14a <output where the devices are connected>); a controlled by the relay (42k); the relay being in an opened position (situation shown in the figure) when no current is flowing through the relay, the absence of current flow in the second relay corresponding to an abnormal state of the protective circuit (no power to the load); the switch in the opened position disconnecting components of the hot-neutral voltage surge

protection/filtration circuit (LC filter 41a/47 and the clamping device 45); the second switch being in a closed position when current ifs flowing through the second relay, the presence of current flow in the second relay corresponding to a normal state of the protective circuit; the second switch in the closed position connecting the components of the hot-neutral voltage surge protection/filtration circuit (the switch has two states open-close, on-off).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Lawrence in view of Winch et al. with the (TVSS) of Mechanic because it protects the load is protected from an excess voltage level between the hot and neutral leads from the power utility outlet (Mechanic <Col.2 lines 53-55>).

Regarding claim 9 Lawrence in view of Winch et al. and Mechanic discloses the protective circuit of claim 5.

Winch et al. further discloses further comprising: a voltage threshold sensing circuit adapted to detect when the voltage on the circuit hot lead exceeds a threshold value (Fig. 5 element 66), a relay supply switch (Fig. 5 element 30) for providing current to the relay circuit (Fig. 5 element 34); and an electronic switch (Fig. 5 elements Q1, Q2) responsive to the voltage threshold sensing circuit for disabling the relay supply switch allowing the relays to transition between their closed and opened conditions.

Regarding claim 10 Lawrence in view of Winch et al. and Mechanic discloses the protective circuit of claim 5.

Winch et al. further discloses comprising: a voltage threshold sensing circuit (Fig. 5 element 66) adapted to detect when the voltage between the circuit hot and neutral leads exceeds a threshold value, a relay supply switch (Fig. 5 element 30) for providing current to the relay circuit (Fig. 5 element 34); and an electronic switch (Fig. 5 elements Q1, Q2) responsive to the voltage threshold sensing circuit for disabling the relay supply switch allowing the relays to transition between their closed and opened conditions.

Regarding claim 11 Lawrence in view of Winch et al. and Mechanic discloses the protective circuit of claim 5.

Winch et al. further discloses comprising: a voltage threshold sensing circuit (Fig. 1 element 66) adapted to detect when the voltage on the circuit hot lead exceeds a threshold value; a relay supply switch for providing current to the relay circuit; an electronic switch (Fig. 5 elements Q1, Q2) responsive to the voltage threshold sensing circuit for disabling the relay supply allowing the relays to transition between their closed and opened conditions when a connection between ground leads is disconnected.

Regarding claim 12 Lawrence in view of Winch et al. and Mechanic discloses the protective circuit of claim 5.

Winch et al. further discloses comprising: a voltage threshold sensing circuit adapted to detect when the voltage on the circuit hot lead exceeds a threshold value; a relay supply switch for providing current to the relay circuit; an electronic switch responsive to the voltage threshold sensing circuit for disabling the relay supply allowing the relays to transition between their closed and opened conditions when the connection between the hot and neutral lead is reversed (col. 4 lines 36-46).

Note that the examiner used the reference of Lawrence'490 for the feature of the LC filter between neutral and ground.

The references listed below also teach this feature:

- With the inductive element in series with the ground lead:
    - Okochi et al. (US 5179362) discloses a power line filter, which uses an LC filter between neutral and ground, wherein the inductance is disposed in series in the circuit ground lead (Abstract & Fig. 1 elements La, Lb & Cy2).
    - Pagenkopf (US 6218913) discloses an electromagnetic interference (EMI) filter for use in power lines, which uses an LC filter between neutral and ground, wherein the inductance is disposed in series in the circuit ground

lead (Abstract & Fig. 1 inductor and capacitor in L-shaped configuration between neutral & ground).

- Hutchison (US 5969583) discloses an EMI filtering circuit (Abstract & Fig. 1 elements 114 <inductance> & 122 <capacitance> connected elements between neutral and ground).

- With the inductive element in series with the neutral lead (note that the filter performs the same by having the inductor in series with either the neutral or ground lead):
  - Muelleman (US 5666255) discloses a system for suppression of transient impulses, which uses an LC filter between neutral and ground (Abstract & Fig. 3 elements 52 & 82).
  - Frederick (US 5083101) discloses an electromagnetic interference (EMI) filter for attenuating both common mode and differential mode EMI conducted emissions from electronic equipment (Abstract & Fig. 1 elements 22<bottom inductor> & 48).
  - Kitchens (US 4845580) discloses an spike eliminating band-pass filter for AC and DC power lines for telecommunication apparatus and computers (Abstract, Claim 1 & Fig. 1 elements C8, C9 & L9).
  - Ari et al. (US 4760485) discloses a surge arrester circuit that provides protection against transient disturbances, which uses an LC filter between neutral and ground (Abstract & Fig. 1 elements L4, L5, L6, C3 & C5).
  - Epstein (US 4675772) discloses a protector network for AC equipment, which uses an LC filter between neutral and ground (Abstract & Fig. 2 elements 27 & 28).
  - Stolarczyk (US 4912589) discloses a surge suppression network (Abstract & Fig. 9 elements 574 (inductance) and 592 (capacitor) connected elements between neutral and ground).

Response to Arguments

Applicant submitted an Affidavit signed by Mechanic with results of test conducted by the inventor in an independent laboratory and statement alleging that the tests demonstrated unexpected results. According to the Declaration, the Copier Guardian TBF 15C-1121TN device was tested and compared to the products of competitors (page 7). According to Applicant, the device being subjected to the surge voltage test according to ANS/IEEE C62.41-1991 demonstrated far superior neutral/ground let-through voltages than the competitor's products. However, the details of these tests require further explanations. "Appellants have the burden of explaining the data in any declaration they proffer as evidence of non-obviousness." *Ex parte Ishizaka,* 24 USPQ2d 1621, 1624 (Bd. Pat. App. & Inter. 1992).

"Evidence of unexpected properties may be in the form of a direct or indirect comparison of the claimed invention with the closest prior art which is commensurate in scope with the claims". See *In re Boesch,* 617 F.2d 272, 205 USPQ 215 (CCPA 1980) and MPEP § 716.02(d) - § 716.02(e).

1) According to Applicant: "a comparison of the test results for the embodiment of claim 1 were made with that of other prior art products" (page 14). However, the Declaration does not specify following elements, which are essential for judgment whether the comparison satisfies requirements of the examination practice, namely:

What is connection (if any) between the tested competitors devices and the prior art of this Examination. Particularly, the question is whether the competitor's devices included the surge suppressing devices and LC filters between in the hot – neutral and

neutral - ground paths, and if so, what were amount of surge protection devices and the low pass filtering stages. An answer to this question is essential because what is to be demonstrated is a comparison "of the claimed invention with the closest prior art which is commensurate in scope with the claims". *In re Boesch,* 617 F.2d 272, 205 USPQ 215 (CCPA 1980) and MPEP § 716.02(d) - § 716.02(e). It is totally unclear whether the competitors devices really represent the closest prior art and how the competitor's devices commensurate in scope with the claims.

Since the Declaration does not address this issue it cannot be properly judged.

2) According to Applicant, "a comparison of the test results for the embodiment of claim 1 were made with that of other prior art products" (page 14). The attached to Declaration Drawing shows the Smart Power Guardian circuit including substantial amount of surge suppression devices, i.e. five stages of varistors in the hot – neutral path and one varistor in the neutral – ground path combined with common mode LC transformer filter in the hot – neutral path and a single stage LC filter in the neutral – ground path. Claim 1 recites neither common mode LC filter in the hot – neutral path, no multiple surge suppression devices. The claim 4, which is dependent on Claim 1, recites the LC filter in the hot-neutral path, but none of the claims recites presence of a single surge suppression device. As well known in the art, substantial reduction of the noise caused by surge suppression can be achieved by a combination of the surge suppressor with additional low pass filters. And as also well known in the art, a single stage low-pass LC filter provides attenuation of less than 20 dB (10 times). It is clear therefore that substantial reduction of both hot – neutral and neutral - ground paths

noises caused by 3kV surge cannot be achieved without use of multiple surge suppressors. Since the claims do not recite the surge suppressors and LC filters in the hot - neutral path, the tested equipment (Smart Power Guardian) at least cannot be considered as embodiment of Claim 1.

In response to applicant's argument that the tested device (Smart Power Guardian) is the embodiment of claim 1, it is noted that the features which played decisive role in the presented tests and upon which applicant implicitly relies (i.e., presence of surge suppressing elements and LC filters in the hot – neutral path) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

3) Applicant presented the Affidavit – Declaration in response to Double Patenting rejection. However, as stated in the Double Patenting rejection, only a timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zeev Kitov whose current telephone number is (571)

272 - 2052. The examiner can normally be reached on 8:00 – 4:30. If attempts to reach examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (571) 272 – 2800, Ext. 36. The fax phone number for organization where this application or proceedings is assigned is (571) 273-8300 for all communications.

/Michael J Sherry/
Supervisory Patent Examiner, Art Unit 2836

/Z. K./
Examiner, Art Unit 2836
7/28/2008